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William Cole Storm, Project Manager
Office of Energy Security
85- 7th Place East, Suite 500
St. Paul, MN 55101-2198

RE: Final Environmental Impact Statement
Xcel Energy Prairie Island Nuclear Generating Plant
Extended Power Uprate Project, PUC Docket No. E002/CN-08-509, E002/GS-08-690
Request for Additional Dry Cask Storage, PUC Docket no. E002/CN-08-510

Dear Mr. Storm:

The Prairie Island Nuclear Generating Plant Study Group (“PINGP Study Group”) submits the following comments pertaining to the July 31, 2009 Final Environmental Impact Statement (“FEIS”) for the Xcel Energy Prairie Island Nuclear Generating Plant Extended Power (“PINGP”) Uprate Project (“uprate”) and the Request for Additional Dry Cask Storage for high-level nuclear waste (“cask increase”).

The PINGP Study Group appreciates the efforts that have been made since the Draft Environmental Impact Statement to respond to our comments and those of many other members of the public. However, we believe that the FEIS in this matter still has significant deficiencies and fails to provide the information needed by the community, the Minnesota Public Utilities Commission (“Commission”) and future Legislative decision-makers, consistent with Minnesota statutes and rules.

The FEIS’ analysis of the extended power uprate assumes that issues will be addressed in some other permitting process, whether the Minnesota Pollution Control Agency’s NPDES permit renewal or the Nuclear Regulatory Commission’s review of the uprate. But Minnesota Rules provide that the Commission may only issue a certificate of need upon finding that the consequences of granting the certificate “are more favorable to society than the consequences of denying the certificate,” considering both energy needs and “the effects of the proposed facility, or a suitable modification thereof, upon the natural and socioeconomic environments compared to the effects of not building the facility.” Minn. R. 7855.0120, Subp. C(2). Issues such as the safety of the uprate and the impact of thermal discharge must be analyzed in the EIS, not placed on shoulders of some future undetermined permit process.

The comments of the PINGP Study Group focus primarily on gaps and inconsistencies in the FEIS pertaining to continued operation of the PINGP and its related cask increase. Primary concerns with this area of the FEIS are summarized below:

1. The FEIS fails to consider the impacts of a nuclear waste non-removal scenario, where spent nuclear fuel casks from the PINGP remain on site, as analyzed in the “no-build” scenario for the Yucca Mountain EIS.
2. The FEIS fails to address the cumulative impacts of continued operation of the PINGP and resulting cask increase, including increased lifetime cancer risks and increased probability that even if the Yucca Mountain repository were built it would not accommodate the additional spent nuclear fuel from continued operations.
3. Although the FEIS demonstrates that continued operation of the PINGP and increases in the number of casks at the PINGP independent spent fuel storage installation (“ISFSI”) will exceed acceptable cancer risks under State health rules, the FEIS fails to discuss any potential action to prevent this exceedance.
4. Although the FEIS explains that managing risks of continued operation at the PINGP and of the ISFSI assume adequate emergency response capabilities, the FEIS does not describe the costs of maintaining emergency response or the consequences if that capability is not maintained.
5. Although the FEIS explains that management of both normal and off-normal operation of spent fuel storage casks depends on the viability of institutional control by the operating utility and several levels of local government over a period extending 200 years into the future, the FEIS neither estimates costs for preserving institutional control nor describes any means whereby such control might be assured.
6. The FEIS provides an inadequate and incomplete discussion of the risks to surrounding communities of radioactive release as a result of terrorism, incident or deterioration of materials over time if adequate emergency response and effective long-term institutional control cannot be assured.
7. Although the FEIS discusses environmental justice issues, it understates the disproportionate impacts of the PINGP and its ISFSI on the Prairie Island Indian Community.
8. The FEIS provides an inadequate and incomplete analysis of alternatives to continued operation of PINGP and increased nuclear waste, including the alternative of repowering the PINGP with natural gas in combination with dispersed renewable energy generation.

Discussion

1. Failure to Consider a Non-Removal Scenario for Cask Storage of Nuclear Waste

The FEIS describes the “no-action alternative” evaluated in the EIS for the Yucca Mountain spent fuel repository. The no action alternative posits “that Yucca Mountain does not enter into operation, and that commercial spent nuclear fuel is stored in ISFSIs at existing plant locations for 10,000 years.” (FEIS, Ch. 2, p. 38).

The FEIS then summarizes the federal EIS analysis of both a scenario where institutional control can be maintained for 10,000 years (Scenario 1) and a second scenario (Scenario 2) where institutional control ends after 100 years, resulting in the “degradation of the ISFSI storage systems, their failure, and the eventual release of radionuclides into the environment.” (FEIS, Ch. 2, p. 39) The latter scenario results in thousands of cancer deaths over an extended time horizon.

The FEIS acknowledges the possibility that the Yucca Mountain repository will not be available either in the short term or the long term:

Prospects for opening Yucca Mountain on this timeline (2020) have likely weakened with the new federal administration. . . It is possible that the Yucca Mountain repository will not be available in the long term, i.e., that it will not be constructed or operate. (FEIS, Ch. 2, p. 43)

However, despite this possibility, the FEIS fails to analyze outcomes based on the no action Scenario 2 described in the Yucca Mountain EIS. The FEIS seizes on the perception that the “most likely” scenario in accordance with state and federal law is “temporary long term storage of spent nuclear fuel at the Prairie Island ISFSI until the dry storage casks can be transported to a federal repository.” (FEIS, Ch. 2, p. 36) The FEIS then fails to assess any scenario other than the one it has deemed “most likely.”

The PINGP Study Group has no basis to evaluate the FEIS’ conclusory statement that eventual transportation of nuclear waste from the PINGP ISFSI to a federal repository is most likely. Whether or not temporary long term storage is likely, we believe that the FEIS must also describe the consequences of the non-removal scenarios evaluated in the Yucca Mountain EIS. Without knowing the possible consequences of additional cask storage in the PINGP ISFSI under the scenario where the Yucca Mountain repository won’t be available even in the long term, the public, the Commission and Legislative decision-makers cannot be adequately informed of the possible irretrievable commitment of resources represented by the decision to continue operations and increase cask storage of nuclear wastes at the Prairie Island nuclear plant.

2. Failure to Address Cumulative Impacts of Continued Operation and Cask Increase

The FEIS attempts to minimize the cumulative impacts of continued operation of the PINGP through 2034, stating that no new or additional impacts beyond those discussed in connection with the power uprate are anticipated to occur. (FEIS, Ch. 2, p. 22).

The PINGP Study Group believes that cumulative impacts of another 20 years of operation of the PINGP and the resulting nuclear waste cask increase should have been analyzed rather than minimized in the FEIS.

The FEIS should have acknowledged that continued operations of the PINGP would result in additional and cumulative radioactive discharge to the air and water, additional water draw down and additional thermal discharge to the Mississippi River. Even if Xcel Energy has not violated permits by discharging tritium to groundwater at levels exceeding 2,000 picocuries per liter (FEIS, Ch. 1, p. 85) or by causing loss of fish life from cold shock (FEIS, Ch. 1, p. 49), these and

other adverse impacts of operation should have been discussed as cumulative impacts of continued operation, particularly under the power uprate. Similarly, the benefits of cessation of discharge should have been discussed in the FEIS in describing the alternatives to continued operation of the PINGP. (FEIS, Ch. 2, Sections 6.4, 7.2).

More critically, the FEIS should have analyzed the additional lifetime cancer risk to personnel at the PINGP and to members of the public resulting from continued operations and increase in the number of spent fuel casks at the PINGP ISFSI. The FEIS notes that the additional lifetime cancer risk to the public from 64 casks at the PINGP ISFIS is 2.8 in 100,000 (FEIS, Ch. 2, p. 26) and that this additional lifetime cancer risk increases more than ten-fold to 35 in 100,000 when the number of casks reaches 98 (FEIS, Ch. 2, p. 37). Yet, at no point does the FEIS even attempt to quantify the difference in cancer risk to either PINGP personnel or the public if the decommissioning process begins in 2014, rather than in 2034, significantly reducing the number of nuclear spent fuel storage casks at the PINGP facility.

Perhaps most significant, given testimony and documentary evidence at hearings in this matter, the FEIS does not discuss as a cumulative risk of continued PINGP operation the increased likelihood that nuclear waste storage casks will remain on site in Minnesota, even if a federal waste depository is constructed. If the Yucca Mountain federal repository becomes available at level authorized by Congress, it would accommodate existing spent fuel from PINGP, but not spent fuel for 20 years of continued operation. Spent fuel will be transported on a first generated, first served basis. (See Ex. 144, p. 9 (CBO Testimony), Tr. V. 4, p. 210 (Sampson)).

In the scenario where the planned federal repository becomes available for storage of nuclear wastes in accordance with federal law, the cumulative addition of casks for operation of the PINGP between 2014 and 2034 may mean the difference to Minnesota between short-term storage of wastes if operations discontinue in 2014 and permanent storage of high level nuclear waste at the Prairie Island ISFSI if operations and cumulative nuclear waste production continue to 2034.

The difference between short-term and permanent on-site nuclear waste storage in Minnesota on the Mississippi River and near the Prairie Island Indian Community is highly significant to the public and to decision-makers. The FEIS should have explained that continued operations increase the probability that nuclear waste at the PINGP will have no allocated repository, even if the Yucca Mountain project proceeds in accordance with federal law.

3. Failure to Evaluate Actions to Prevent Exceedance of Acceptable Cancer Risk Levels

The FEIS identifies Minnesota Rules that provide numeric guidance for carcinogenic risk resulting from emissions to groundwater and air to which Minnesotans are involuntarily exposed. The FEIS acknowledges that, "The acceptable level for additional lifetime carcinogenic risk from contaminants in these mediums is 1 in 100,000 (1 E-05)." (FEIS, Ch. 1, p. 78).

This acceptable level for cancer risk is not particular to radioactive emissions and is not designed to single out nuclear generation. The 1 in 100,000 acceptable level for additional lifetime cancer risk applies to discharge to groundwater or air from any Minnesota facility. (Minn. R.

4717.7300, Minn. R. 4717.8050, Subp. 3). These risks are considered in permit applications and to determine the scope of voluntary actions to remediate pollution. Where a proposed action will result in carcinogenic exposure through more than one medium or chemical, these risks are cumulated in health risk assessment. (Minn. R. 4717.7700, Minn. R.4717.8550).

Minnesota Rules in Chapter 4731 requiring that radioactive materials licensees must achieve doses to workers and the general public as low as reasonably achievable ("ALARA") (Minn. R. 4731.2010, Subp. 2), do not relieve a licensee from complying with other state requirements governing toxic or hazardous properties of materials disposed of under this chapter. (Minn. R. 4731.0200, Subp. 1).

The FEIS estimates the risks of cancer incidence resulting from PINGP operations. Even under routine conditions, with no off-normal operations, incidents or leaks, PINGP continued operations would result in an additional lifetime cancer risk for PINGP personnel exceeding acceptable levels under Minnesota Rules. Additional lifetime cancer risk for PINGP personnel over a lifetime working at the plant under routine conditions would be 660 in 100,000 (FEIS, Table 4-10 to Ch. 1), resulting in an estimated 6.1 additional cases of cancer and 3.1 additional cancer deaths during ongoing operation of the PINGP (FEIS, Ch. 1, p. 86).

Similarly, under routine conditions, with no incidents or leaks, operation of the ISFSI will result in additional lifetime cancer risk both for PINGP personnel and for the public exceeding Minnesota's acceptable risk levels. Additional lifetime cancer risk for PINGP personnel based on normal ISFSI operations with 64 casks is estimated in the FEIS to provide an additional cancer risk of 98 in 100,000. (FEIS, Ch. 2, p. 27).

Additional cancer risks to the public are estimated to be 2.8 in 100,000 with 64 casks (FEIS, Ch. 2, p. 26) and 35 in 100,000 with 98 casks, when the PINGP facility is decommissioned. (FEIS, Ch. 2, p. 37). This data is summarized below.

PERSONS EXPOSED	Route of Exposure	Casks	Additional Cancer Risk per 100,000
Acceptable Risk - Minnesota Rules	cumulative exposures	NA	1
OPERATIONS - PINGP			
PINGP PERSONNEL	"plant operations and maintenance"	NA	600
CASK INCREASE			
PINGP PERSONNEL	"skyshine radiation"	64	98
GENERAL PUBLIC	"skyshine radiation"	64	2.8
		98	35

The PINGP Study Group is troubled by the increased risk of cancer to PINGP personnel, whether or not that risk is from involuntary exposure. In the case of members of the public involuntarily exposed to skyshine radiation from nuclear waste stored at the ISFSI, the FEIS

should have described alternative actions, including the no build alternative, to reduce additional cancer risks to the acceptable risk level (1 in 100,000) defined in Minnesota Rules.

4. Failure to Describe Costs and Risks Related to Emergency Response

At various points in the FEIS, it is emphasized that the FEIS' assumptions that risks of continued operation of the Prairie Island Nuclear Plant and its dry cask storage facility will be insignificant or manageable depend on the effectiveness of emergency response:

If, however, elements of the emergency response plan for the PINGP are not effective, e.g. governmental entities with emergency responsibilities cannot adequately respond, risks may not be well managed. (FEIS, Ch. 2, p. 22) (Safety risks of the PINGP ISFSI)

Discussion of these phenomena assumes that emergency planning measures remain effective into the future. If emergency planning measures are not effective into the future, e.g. governmental entities with emergency responsibilities cannot adequately respond, the risk of radiological impacts increases and could be significant. (FEIS, Ch. 2, p. 29) (Risks of man-made phenomena to the ISFSI, such as fire, explosion, mishandling of casks, terrorism, impact by airplane).

If emergency response measures are not effective, doses to local residents and plant personnel would increase and could cause significant health impacts. (FEIS, Ch. 2, p. 33) (Risk of damage to casks, limited cask confinement failure)

If emergency response measures are not effective, doses to local residents and plant personnel would increase and could cause significant health impacts. (FEIS, Ch. 2, p. 33)(Risk of damage to casks, multiple cask confinement failures.)

The above discussion of potential radiological impacts assumes that emergency response measures are effective. Such measures are necessary to reduce potential exposures and health impacts to the general public. If emergency response measures are not effective into the future, e.g., governmental entities with emergency responsibilities cannot adequately respond, the risk of radiological impacts from potential PINGP incidents increases and could be significant. (FEIS, Ch. 2, p. 35) (Risk of nuclear plant core damage accident, such as Three Mile Island incident, over 20 years of continued operation).

The PINGP Study Group appreciates this clarification of the assumptions underlying the FEIS. However, we are troubled by the fact that the FEIS fails to discuss either the actions and costs needed to assure effective emergency response or the consequences of failure to assure that response.

For example, the FEIS estimates that a "severe accident" at Prairie Island would result in a dose to the public of 237 person-rem (about one-tenth of the radiation from Three Mile Island) if effective emergency response were available. (FEIS, Ch. 2, pp. 34-35). However, the FEIS provides no estimate of the possible public exposures from an incident involving core damage if effective emergency response were not available to contain radionuclides, control fires, perform evacuation and otherwise manage and reduce risks.

In order to advise the public, the Commission and the Legislature of the costs and risks of continued operation of the PINGP, the FEIS should include a cost estimate to assure adequate emergency response during the period of continued operation through at least 2034. The FEIS should also describe, under various scenarios, including accident and man-made phenomena, what the consequences would be for PINGP personnel, nearby residents living in the Prairie Island Indian Community and the City of Red Wing and citizens in population centers potentially affected by air emissions or water contamination if emergency response failed to be effective. The failure to provide this information is a significant gap in the FEIS.

5. Failure to Analyze Assurance of Institutional Control

In addition to discussing the need for emergency response for continued operation of the Prairie Island nuclear plant, the FEIS adds important clarification that the storage of nuclear waste at the Prairie Island ISFSI will require regular monitoring, maintenance and emergency response for a period of up to 200 years to assure that the ISFSI operates as designed to protect public health.

The FEIS explains that decommissioning fund budgets allocating \$4.4 million per year in operation costs for the ISFSI assume that no effort or investment need be made to assure that the social and political infrastructure that supports the Prairie Island plant and ISFSI.

The analysis of dry cask storage for up to 200 years at the Prairie Island ISFSI assumes that regular monitoring and maintenance continue as currently performed at the ISFSI. This monitoring and maintenance would ensure that the ISFSI and its components function as designed to protect public health. In order for this to occur, the social and political infrastructure that supports the Prairie Island plant and ISFSI must continue to function. This continuation of social, political, and economic functioning is commonly known as institutional control. Whether or not, in a country just over 230 years old, institutional control can be maintained for 200 years such that the dry cask storage at Prairie Island performs as designed is a relevant question and one that is challenging to answer. (FEIS, Ch. 2, p. 38)

In a state barely 150 years old, with a corporate entity formed in a merger 10 years ago that has only resumed management of its nuclear power plant within the past year or so (Tr. V. 2, pp. 168-169 (Bomberger)), the unpredictability of institutional control over the next 200 years is particularly salient.

The FEIS explains that there would be additional costs of institutional control in order to protect public safety at the Prairie Island ISFSI and that the nature of the ISFSI is unique in that its demands will last much longer than typical socio-political time horizons with predictable and severe consequences of failure.

What is not reflected in these discussions of cost and payment are those costs of institutional control that are indirectly tied to on-going operations of the Prairie Island ISFSI. That is, institutional control assumes not only a solvent and effective entity (e.g., Xcel Energy) responsible for maintaining proper functioning of the ISFSI, but also solvent and effective socio-political institutions that provide a stable societal framework for the ISFSI. For there to be institutional control of the Prairie Island ISFSI, the city of Red Wing, Goodhue County, the State of Minnesota, and the United States of America all have to exist as functioning political entities. There are myriad demands on these

entities. In this respect, the Prairie Island ISFSI is just one more demand on the list. However, the ISFSI is unique in that its demands will last much longer than typical socio-political demands and the consequences for failing to meet these demands are predictable and severe. (FEIS, Ch. 2, pp. 40-41)

Despite this excellent summary, the FEIS fails to set forth any actions that might be taken to assure institutional control by Xcel Energy, the City of Red Wing, Goodhue County, the State of Minnesota and the United States of America over the next 200 years, along with their estimated costs. If such assurance is infeasible, the PINGP Study Group believes that the FEIS should clearly state that continued operation of the Prairie Island ISFSI will create risks that cannot be managed to protect public health into the future.

6. Failure to Describe Risks if Casks are Compromised, Particularly when Institutional Control Is Not Maintained

The FEIS acknowledges that man-made phenomena could result in a failure of dry storage cask confinement of the high level nuclear wastes stored at the ISFSI:

It is possible that armaments could be used to attack the casks, creating damage or a fire that causes a cask seal failure. An airplane could be commandeered to attack the casks. (FEIS Ch. 2, p. 31)

The EPRI risk assessment indicates that . . . impact from a commercial airliner could cause a cask to tip, depending on which part of the airplane hits the cask. The impact would likely cause a fire which would damage cask shielding and could compromise cask confinement. (Ch. 2, p. 32)

However, the analysis of consequences if casks are compromised is sketchy at best. The FEIS estimates radiation exposure from one cask under its “hypothetical cask confinement failure,” but provides no rationale for assuming in event of a terrorist attack or airplane impact that only one cask would be affected. (FEIS, Ch. 2, pp. 32-33). The FEIS does not use data pertaining to characteristics of the nuclear waste stored in the casks, weather conditions, hydrology and demographics to estimate the nature of exposures that might occur in either a likely or worst case scenario. The FEIS does not describe the potential risk of terrorism or the capabilities of weapons to breach cask containment.

The PINGP Study Group recognizes that it may not be possible to do an accurate probabilistic assessment of the risk of cask compromise. However, we believe that the FEIS should explain the consequences of the occurrence in clear and understandable language. Even if the probability of catastrophic loss is estimated to be low, it may be reasonable for the Commission and the Legislature to adopt a policy of risk aversion, rather than monetizing the risk of loss.

Finally, the FEIS recognizes that the magnitude and probability of risks increase if institutional control over the ISFSI cannot be maintained:

If institutional control is not maintained, incident risks become greater. If the dry casks are not monitored and maintained they will likely deteriorate with time and their barriers to release will degrade. Under such circumstances, natural and man-made phenomena, previously resisted by the storage casks, could cause release of radionuclides.

(FEIS, Ch. 2, p 42)

The PINGP Study Group believes that the FEIS should explicitly describe the nature of the risks over time of compromise of the integrity of casks, particularly if institutional control over the ISFSI is not maintained. How many people in Red Wing, the Prairie Island Indian Community, and in communities throughout Minnesota would be affected by increases in skyshine radiation, radionuclides in air, surface water, groundwater or food? Would they sicken or die? For how long would environmental contamination last?

Continued operation of the PINGP for another 20 years will more than double the number of spent fuel storage casks and increase the risk that casks holding highly radioactive wastes will be stranded on site for hundreds or thousands of years, even if the Yucca Mountain repository is eventually built. Other energy sources entail no similar risks.

Before the Commission and the Legislature decide whether to allow the proposed cask increase, they deserve explicit and detailed analysis of the risks that they would be authorizing.

7. Inadequate Environmental Justice Analysis

The PINGP Study Group appreciates the additional text in the FEIS regarding environmental justice concerns. It is a positive step that the FEIS recognizes that “the Prairie Island Indian Community (PIIC) is a community of persons for whom there are environmental justice concerns.” (FEIS, Ch. 2, p. 44).

However, the PINGP Study Group finds troubling the statements made in the FEIS that since radiological impacts to the public related to normal operations of the PINGP and the Prairie Island ISFSI are projected to be within federal regulatory guidelines, they “are not anticipated to be significant.” (FEIS, Ch. 2, p. 44).

The PINGP Study Group suggests that current monitoring of radioactive emissions to air and radioactive discharge to water from the PINGP is inadequate to determine if risks to the public exceed acceptable levels. Our forthcoming Advisory Comments will address this insufficiency.

In the case of radiation exposures from the Prairie Island ISFSI, the FEIS itself projects exposures that exceed Minnesota Department of Health acceptable risk levels for cancer. We are unfamiliar with precedent where exposures exceeding acceptable cancer risks are deemed insignificant. It is difficult to imagine, for example, a situation in Minnetonka or Woodbury where involuntary exposures increasing cancer risks above acceptable levels would not be viewed as “significant.”

Statements in the FEIS comparing radiological impacts to federal regulatory guidelines and State cancer risk regulations are factual and appropriate. However, characterization of an impact as not “significant” is at best subjective and imprecise, if not inappropriately dismissive to a particular community. The PINGP Study Group would request that all characterizations of PIIC and general public exposures to radiological impacts from the PINGP and the Prairie Island ISFSI, as not “significant” be removed from the FEIS.

In light of ongoing concerns of the Prairie Island Indian Community and other persons living near the PINGP regarding cancer health risks, the PINGP Study Group would also request that the FEIS discussion of Minnesota studies of breast cancer rates be revised. The FEIS' description of the studies (FEIS, Ch. 1, pp 89-91) from the headline "Breast Cancer Rates and Trends Around Nuclear Power Plants in Minnesota" through the text itself conveys an erroneous impression that the Minnesota studies found that the Prairie Island nuclear plant did not increase cancer rates.

The inapplicability of the Minnesota studies to determine if the PINGP increases cancer risks is clearly explained in the FEIS response to prior comments of the PINGP Study Group:

These studies were not conducted to determine whether cancer risks were higher because of Minnesota's nuclear power plants. . . The use of a ten-county region to examine cancer risks would preclude identifying an increased cancer risk related to close proximity (as a surrogate for exposure) to nuclear power plants. A very different study design would be required and there would be an insufficient number of cases to conduct such a study in Minnesota. (FEIS, Ch. 3, Response to Comment 16-24)

The PINGP Study Group disagrees that alternative sites need not be discussed, particularly with respect to cask storage of wastes for decommissioning. We incorporate by reference our discussion of this issue in comments dated May 8, 2009 and note that the Prairie Island Indian Community, which is adjacent to the PINGP, has about 250 of the Tribe's 776 members residing within 3 miles of the PINGP (FEIS, Ch. 1, p. 59).

The FEIS should have documented the proportion of Tribal members living within 3 miles of the PINGP as compared to the proportion of Tribal members in the State of Minnesota as a whole. The FEIS might have also noted that there is no other ethnic community within the State where one third of its members live in such close proximity to a nuclear power plant and nuclear waste storage facility. These facts would help quantify the disparate impact on the Prairie Island Indian Community.

The FEIS does confirm that continued operations at the PINGP and increased cask storage at its ISFSI will result in disparate impacts to the Prairie Island Indian Community:

[Under normal operations] PIIC members will receive slightly higher exposure levels and doses than communities at a greater distance. These doses will create a small incremental risk that the PIIC will bear differentially from other communities.

The likely larger uncertainty and incremental risk borne by the PIIC is the uncertainty related to an incident at the PINGP or Prairie Island ISFSI. As discussed in this section, the probabilities associated with such incidents are projected to be very low; consequently their impacts are not anticipated to be significant. Nonetheless, there is uncertainty. This uncertainty is borne by all communities surrounding Prairie Island, but likely most directly felt by those communities which could be impacted should an incident occur, e.g., PIIC, City of Red Wing. As discussed in Chapter 1, Section 4.5, this uncertainty may be associated with socio-psychological impacts. (FEIS, Ch. 2, p. 44)

The FEIS suggests that disproportionate risks to the PIIC could not be completely eliminated until PINGP operations cease and casks are removed to a federal repository. The FEIS does state

that “the only apparent means to mitigate environmental justice concerns related to the PIIC would be to discontinue operations at the PINGP and replace its energy generation with an alternative source.” (FEIS, Ch. 2, p. 45)

The PINGP Study Group believes that there is an obligation to mitigate environmental injustice that should be more fully considered in the FEIS in discussing alternatives.

8. Incomplete Analysis of Alternatives, Including PINGP Repowering & Distributed Renewable Generation

The FEIS’ analysis of alternatives to continued operation of the PINGP and its concomitant cask increase places undue emphasis on a present value of revenue requirements (“PVRR”) cost analysis. This emphasis is problematic because the methodology excludes some of the most significant costs of nuclear power and because it is inconsistent with the Minnesota Environmental Policy Act (MEPA) and the considerations required for issuance of a certificate of need.

The PVRR cost comparison between continued operation of the Prairie Island nuclear plant and other energy alternatives doesn’t include the costs of decommissioning, which is separately funded by ratepayers. In 2008 dollars, the current cost estimates for decommissioning are \$1.026 billion for radiological removal, \$83.7 million for site restoration and \$404 million for ISFSI operations. (FEIS, Ch. 2, p. 15). This unique cost exceeds the difference between continued operation of the PINGP and other feasible alternatives.

In addition, MEPA clearly requires more than a “least cost” analysis. MEPA precludes state action significantly affecting the quality of the environment where there is “feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction.” MEPA also states, “Economic considerations alone shall not justify such conduct.” (Minn. Stat. §116D.04, subd. 6). Minnesota’s certificate of need law also provides more than a least cost analysis. The Commission is required to “the policies, rules, and regulations of other state and federal agencies and local governments.” Minn. Stat. §216B.243, subd. 7.

As documented in the FEIS and summarized above, continued operation of the PINGP and its resultant cask increase result in untoward risks over time, particularly if institutional controls cannot be maintained, radiological impacts exceeding Minnesota Department of Health acceptable cancer risks and conflict with state and federal environmental justice policies designed to ensure that minority and economically-disadvantaged communities do not bear a disproportionate share of the involuntary risks and consequences of environmental pollution. Particularly in light of these conflicts with rules and policies, the FEIS must provide sufficient information regarding feasible and prudent alternatives so that the Commission and the Legislature may evaluate whether they meet the requirements set forth in MEPA.

The PINGP Study Group believes that the alternative of repowering of the PINGP with natural gas in combination with distributed renewable generation should have been analyzed in greater detail in order to avoid unacceptable risks and mitigate environmental injustice. The FEIS provides some analysis of this alternative, but gaps still remain. The FEIS contains the following discussions:

Infrastructure needed for this scenario (offsite NGCC) could include a natural gas supply pipeline and new transmission facilities to connect the plant to the grid. However, if NGCC plant was sited at Prairie Island, no new transmission facilities would be required. The feasibility of converting (repowering) the PINGP to an NGCC plant has been studied. (FEIS, Ch. 2, p. 58)

Renewable resource technologies may or may not require the development of new transmission lines to distribute their power generation. If transmission lines are needed, these lines would have negative environmental impacts associated with them. A study commissioned by the Minnesota Legislature concluded that there is potential for locating 600 megawatts (MW) of dispersed renewable generation within Minnesota's existing transmission infrastructure. Thus, approximately half of the PINGP's generating capacity could be met with renewable resource technologies that do not require additional transmission. Depending on the transmission needs for the remainder of the renewable resource capacity required, environmental impacts from transmission lines for renewable resource technologies could be less than those for fossil fuel technologies. If renewable resource technologies were combined with a natural gas repowering of the PINGP, there could be no additional transmission required, i.e., the renewable resources could be dispersed across existing transmission infrastructure and the Prairie Island site has existing transmission infrastructure regardless of the energy source. (FEIS, Ch. 2, pp. 62-63)

The PINGP Study Group believes that the FEIS should have provided an update to the 2002 study of the feasibility of repowering the PINGP to a natural gas plant in combination with dispersed renewable generation. Specifically, this update would have investigated the feasibility of reuse of various components of the PINGP and the corresponding financial savings and environmental impact avoidance from repowering as compared to an offsite NGCC. The update would have investigated radiological, health, and economic impacts on the Prairie Island Indian Community and the City of Red Wing of repowering as compared to continued operation of the PINGP and expansion of the ISFSI. The FEIS would have reviewed local economic benefits as well as installed costs of dispersed renewable generation.

Conclusion

Although the FEIS has incorporated many issues raised during the public comment period, significant inadequacies remain. The FEIS fails to consider the impacts of a nuclear waste non-removal scenario, a risk that is increased by extending operations at the PINGP and generating additional waste beyond the capacity authorized in law for Yucca Mountain.

The FEIS fails to address the cumulative impacts of radioactive emissions and discharge from the PINGP and fails to analyze separately the incremental risk of additional cask storage at the Prairie Island ISFSI. Although the FEIS documents that continued operation of the PINGP and the increased cask storage at its ISFSI will result in unacceptable cancer risks under State health rules, the FEIS identifies no actions or recommendations to address these risks.

Although the FEIS explains that adequate emergency response capabilities are necessary to manage risks of the PINGP and the ISFSI, the FEIS provides no information on the costs of maintaining response levels or the consequences if that capability is not maintained. Similarly, although the FEIS explains that maintaining institutional control for up to 200 years is essential to manage risks from the ISFSI, the FEIS provides no information on how or whether this control might be assured. The FEIS does not provide sufficient information on the nature of a severe incident without adequate institutional control to permit a decision-maker to evaluate whether risk avoidance would be prudent policy.

Although the FEIS acknowledges environmental justice issues, it minimizes the significance of exposures and risks to the Prairie Island Indian Community as well as to the general public. The FEIS, finally, provides an inadequate and incomplete analysis of alternatives to continued operation of the PINGP and continued expansion of on-site storage of high-level nuclear waste.

Alternatives, including repowering of the PINGP and dispersed renewable generation would avoid unacceptable cancer risks, mitigate environmental injustice and reduce the risk of stranded nuclear waste. Decision-makers should be provided with sufficient information so that they may seriously consider these alternatives in compliance with applicable statutes and rules.

Sincerely yours,

A handwritten signature in black ink, reading "Paula G. Maccabee". The signature is fluid and cursive, with a long horizontal flourish at the end.

Paula G. Maccabee
Attorney for the PINGP Study Group